

ABSTRACT

A natural circulation circuit includes an evaporator (3) surrounding a heat radiating portion of a Stirling refrigerating machine to absorb heat of the heat radiating portion through evaporation of a coolant, a condenser arranged to be higher than the evaporator (3) to condense the coolant having gas phase, a conduit (8) guiding the coolant from the evaporator (3) to the condenser, and a return pipe (9) returning the liquefied coolant from the condenser to the evaporator (3). In the evaporator (3) a distance between an opening (9A) of the return pipe (9) and an inner circumferential surface (11A) of the evaporator (3) is smaller than that between an opening (8A) of the conduit (8) and the inner circumferential surface (11A).